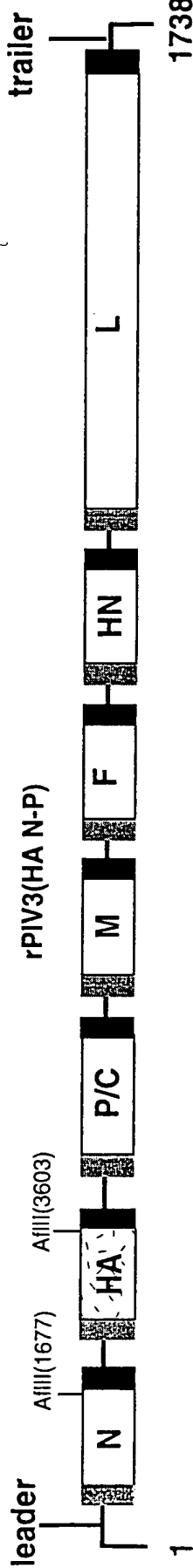
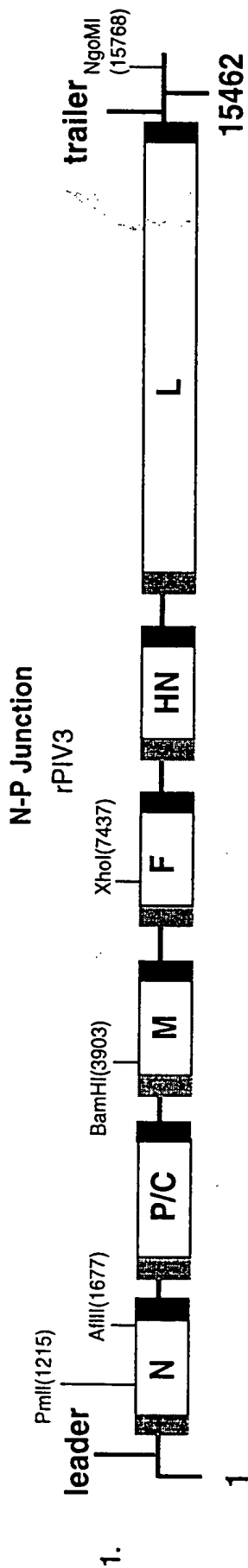
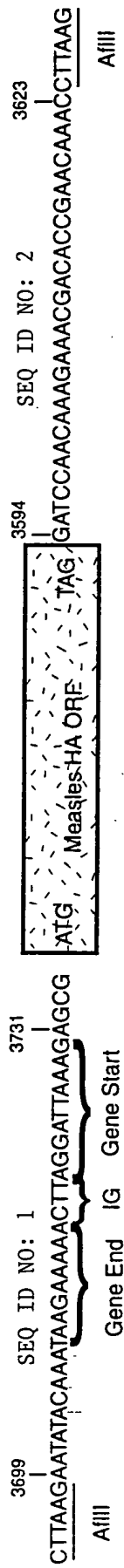
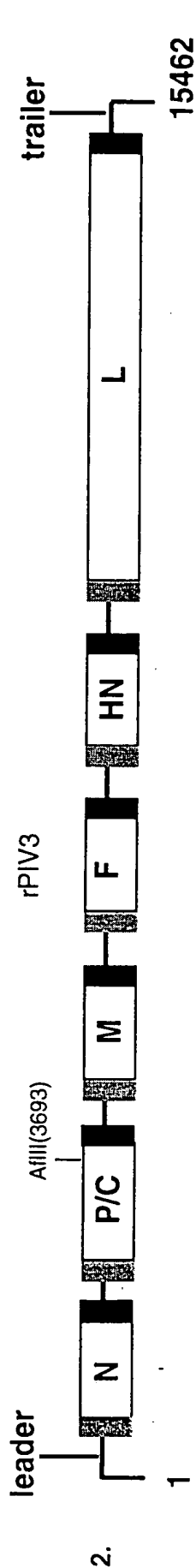


# Measles HA insert for N-P and P-M junctions



## P-M Junction



## rPIV3(HA P-M)

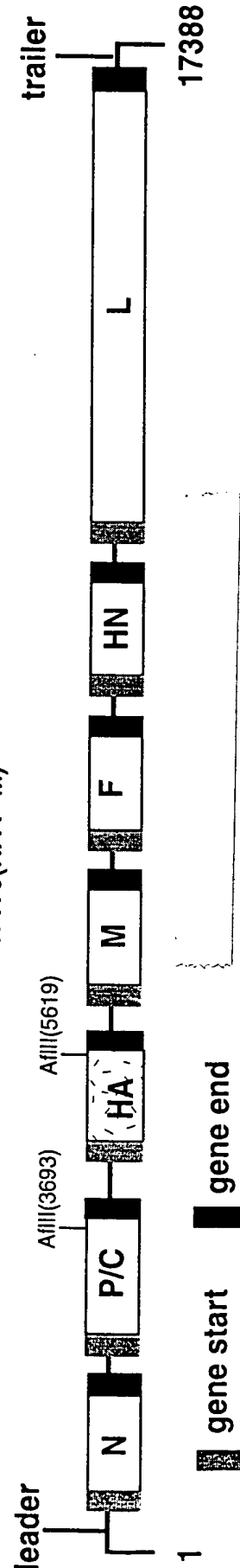


FIG. 1A

# Measles HA Insert for the HN-L junction

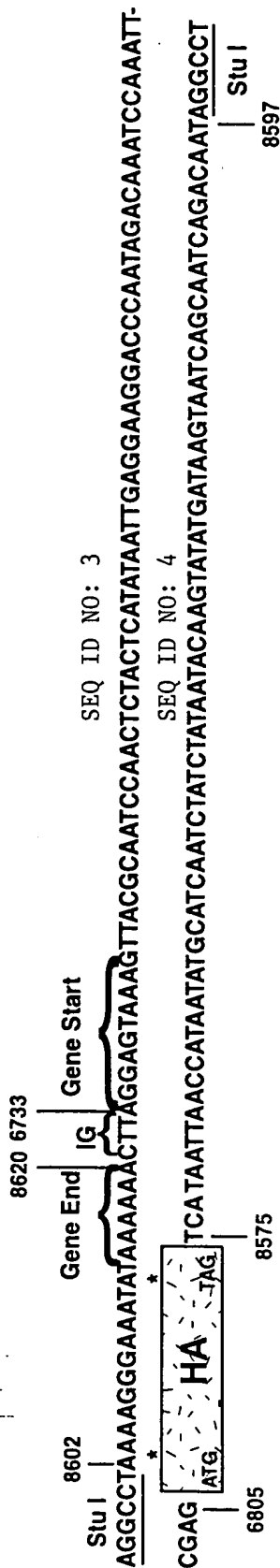
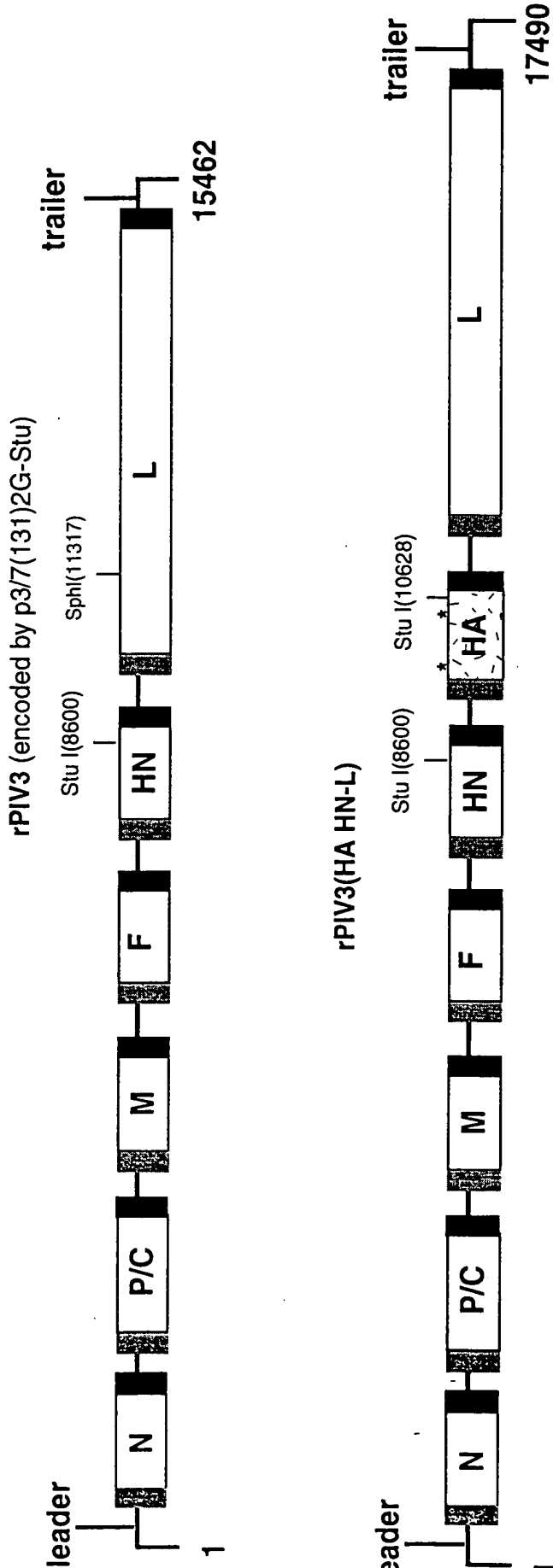
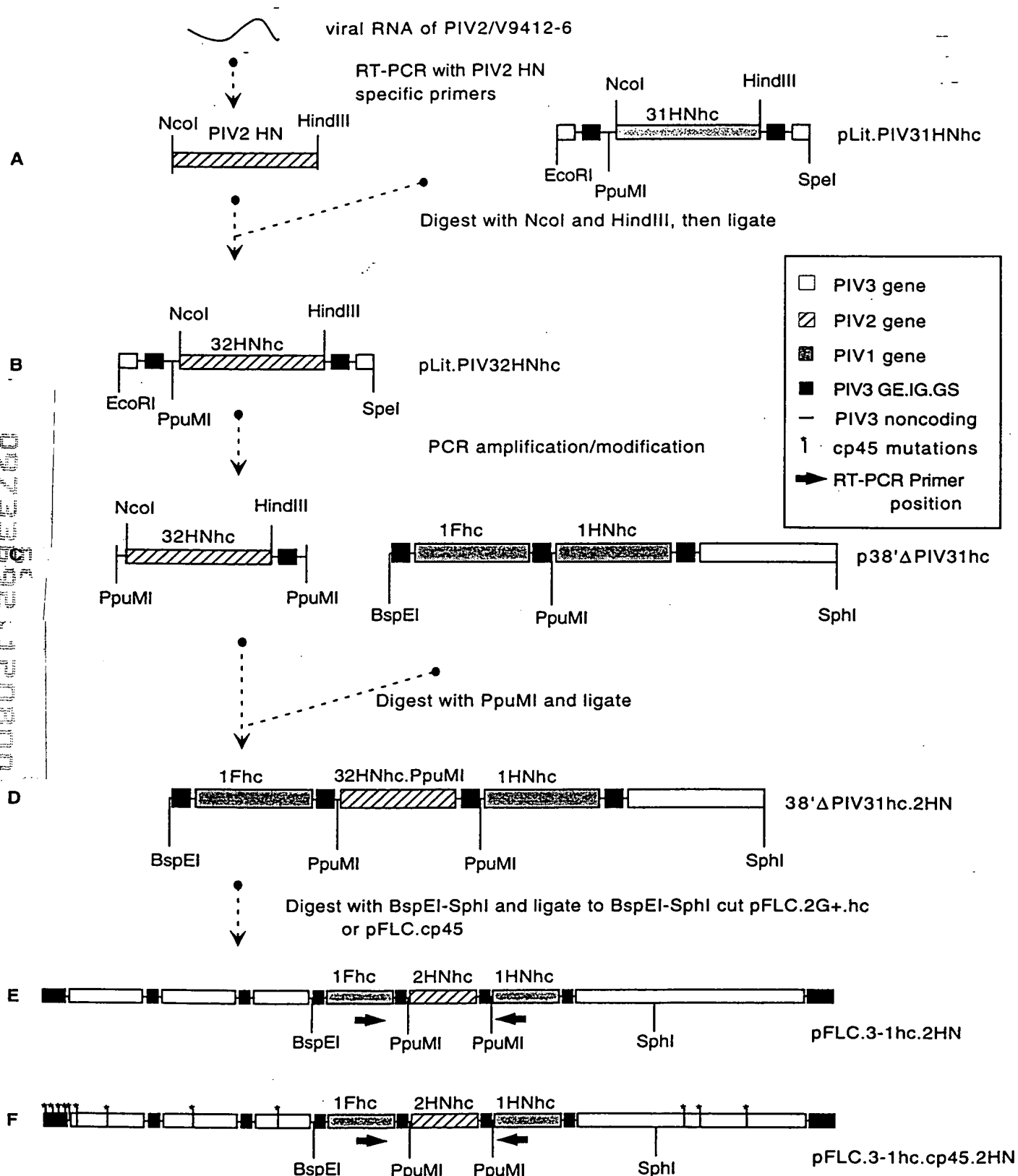


FIG. 1B

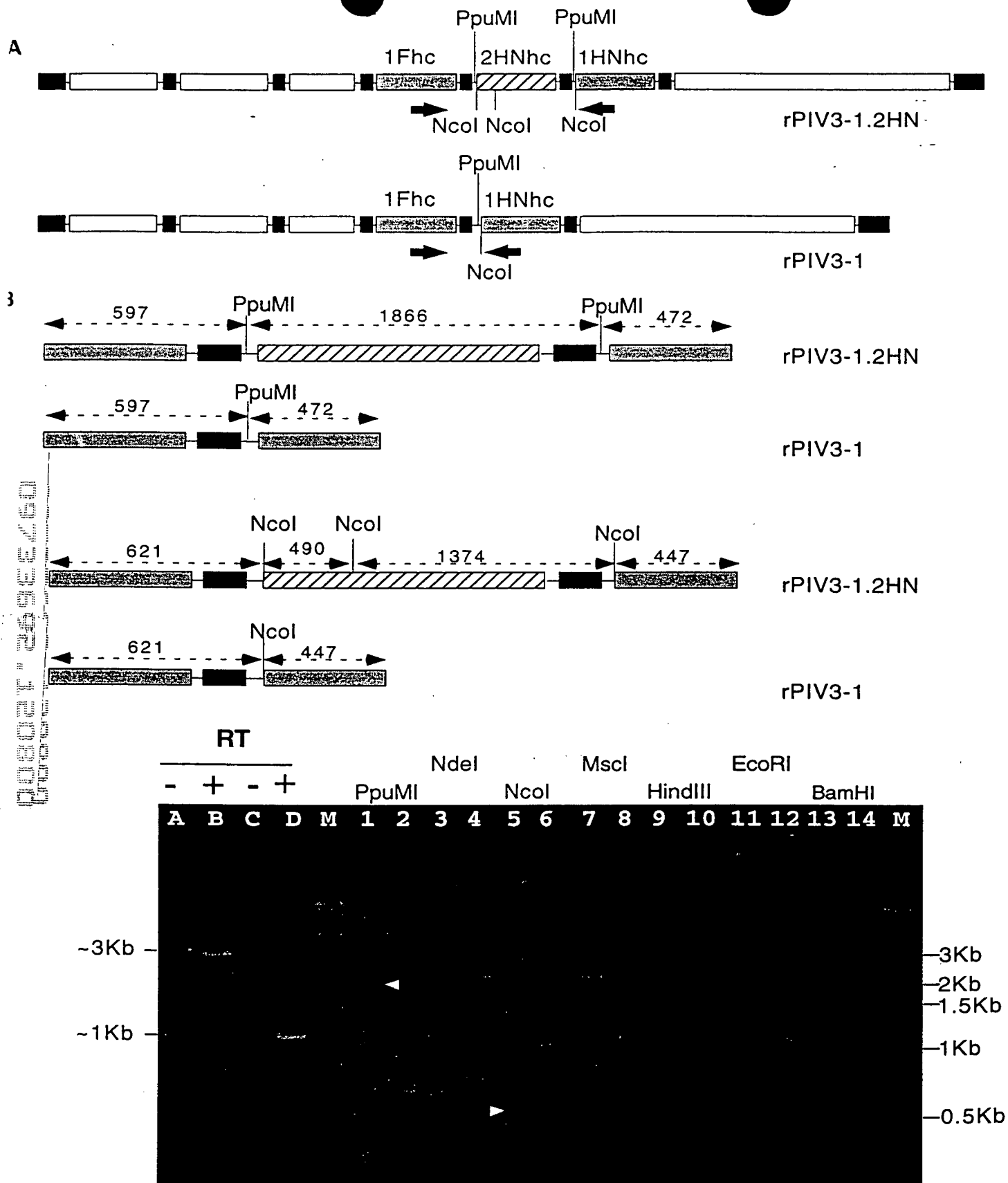


Western blot analysis showing the expression of HA-tagged proteins in various cell lines. The lanes are labeled: Mock, rJS, rcp45L(HA P-M), rcp45L(HA N-P), and Measles. Each lane has two sub-lanes, 'a' and 'b'. The proteins are detected using anti-HA (filled triangle) and anti-HN (open triangle) antibodies. Molecular weight markers are indicated on the right: 220 kD, 97.4 kD, 66 kD, 46 kD, 30 kD, 21.5 kD, and 14.3 kD.

**FIG. 2**



**FIG. 3**



**FIG. 4**

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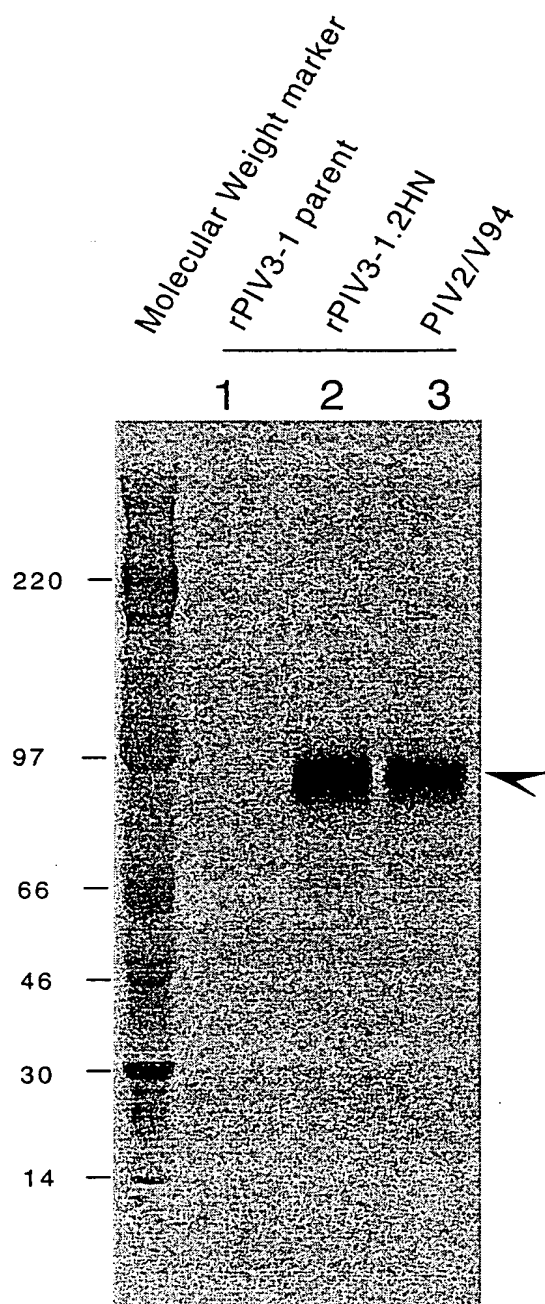
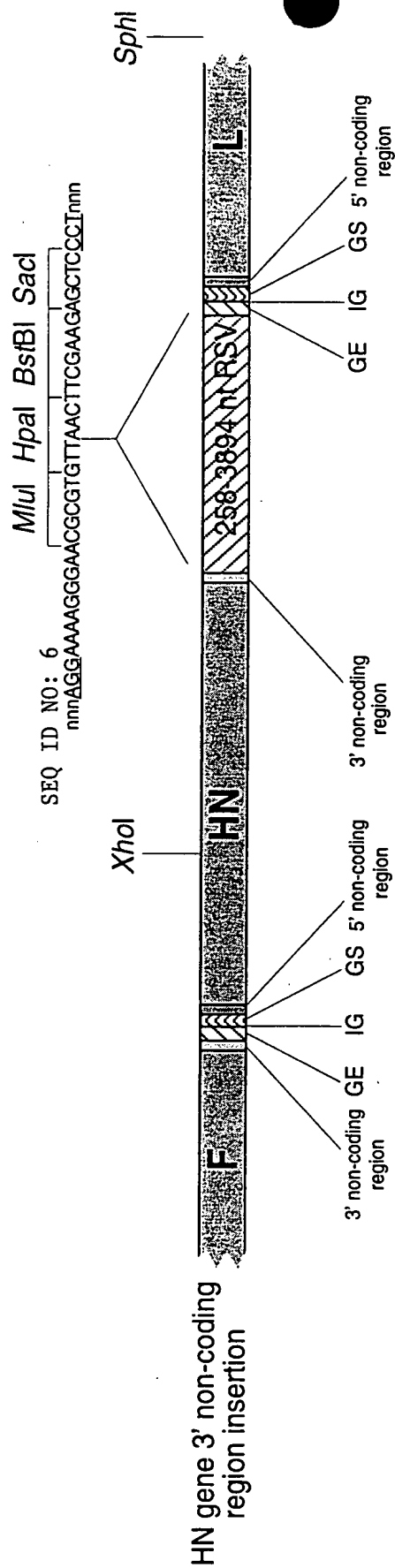
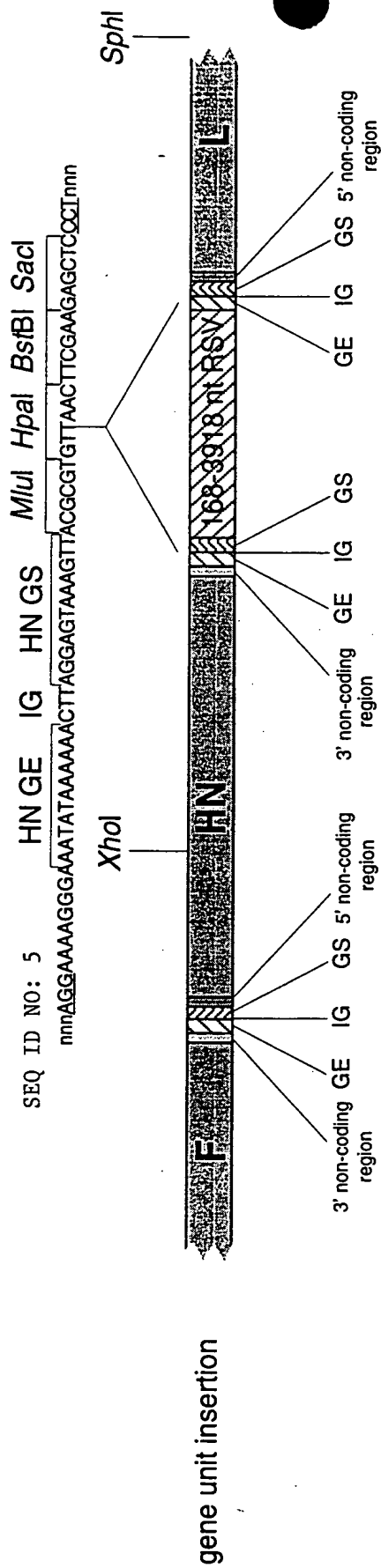


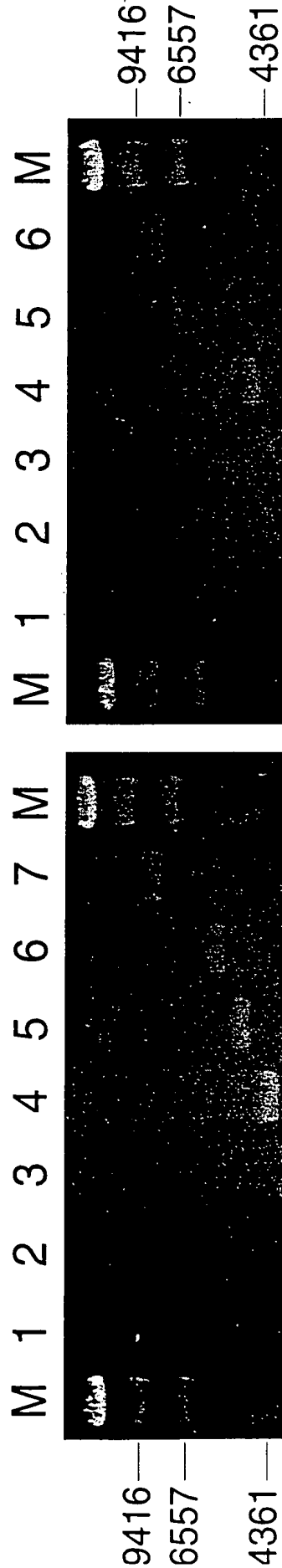
FIG. 5



**FIG. 6**



A



B

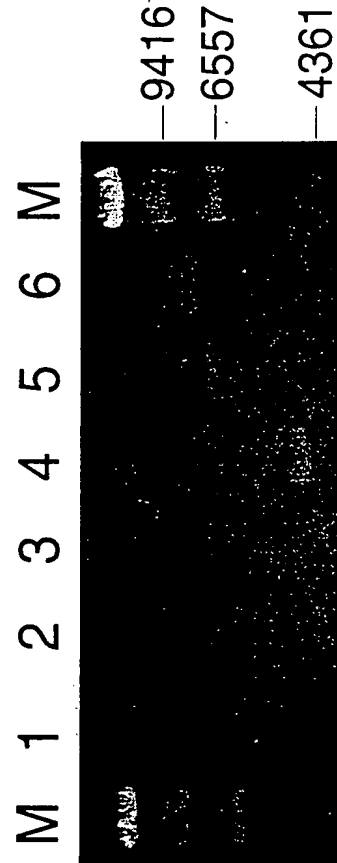


FIG. 8

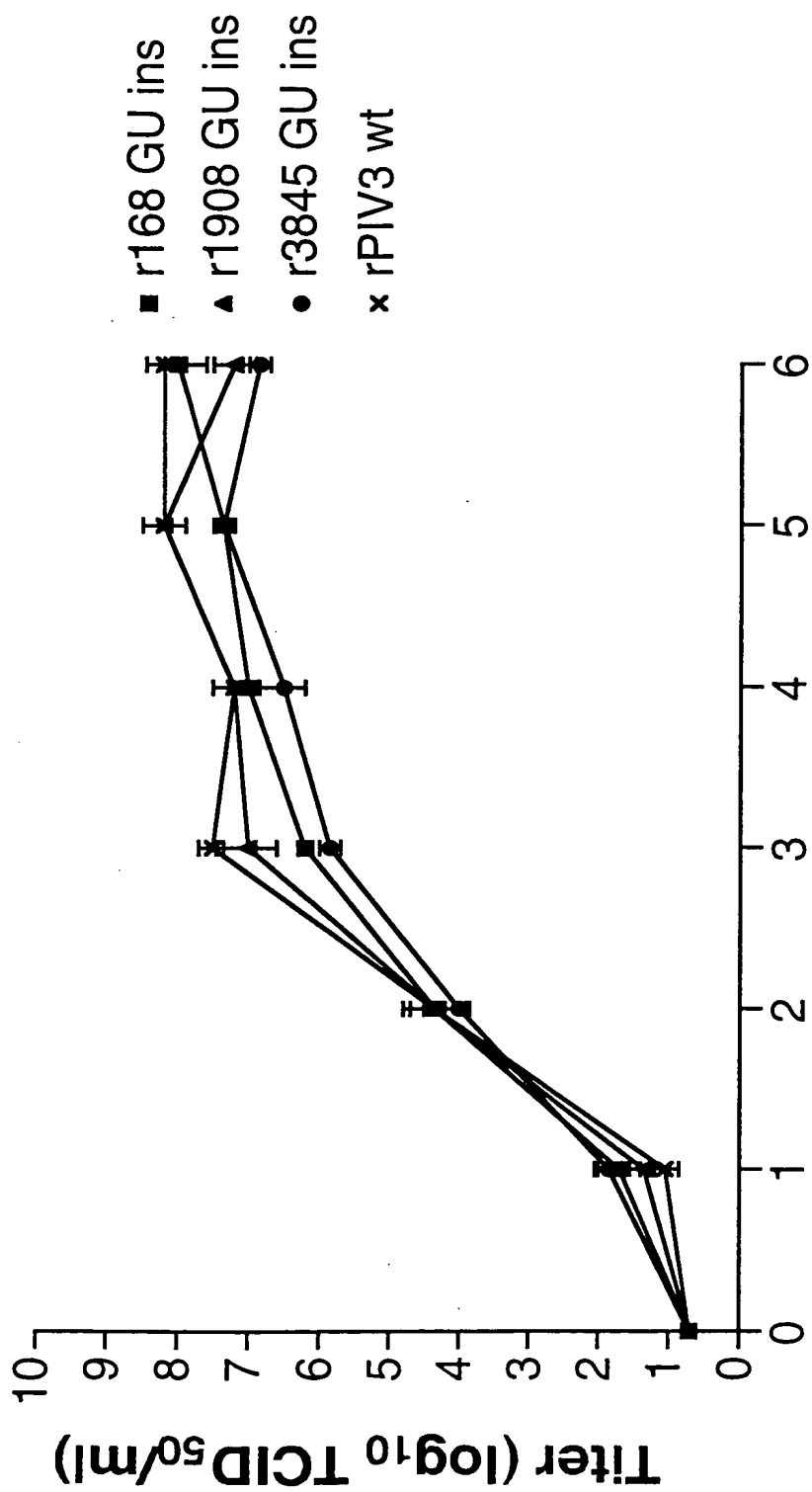


FIG. 9A

Days post-infection

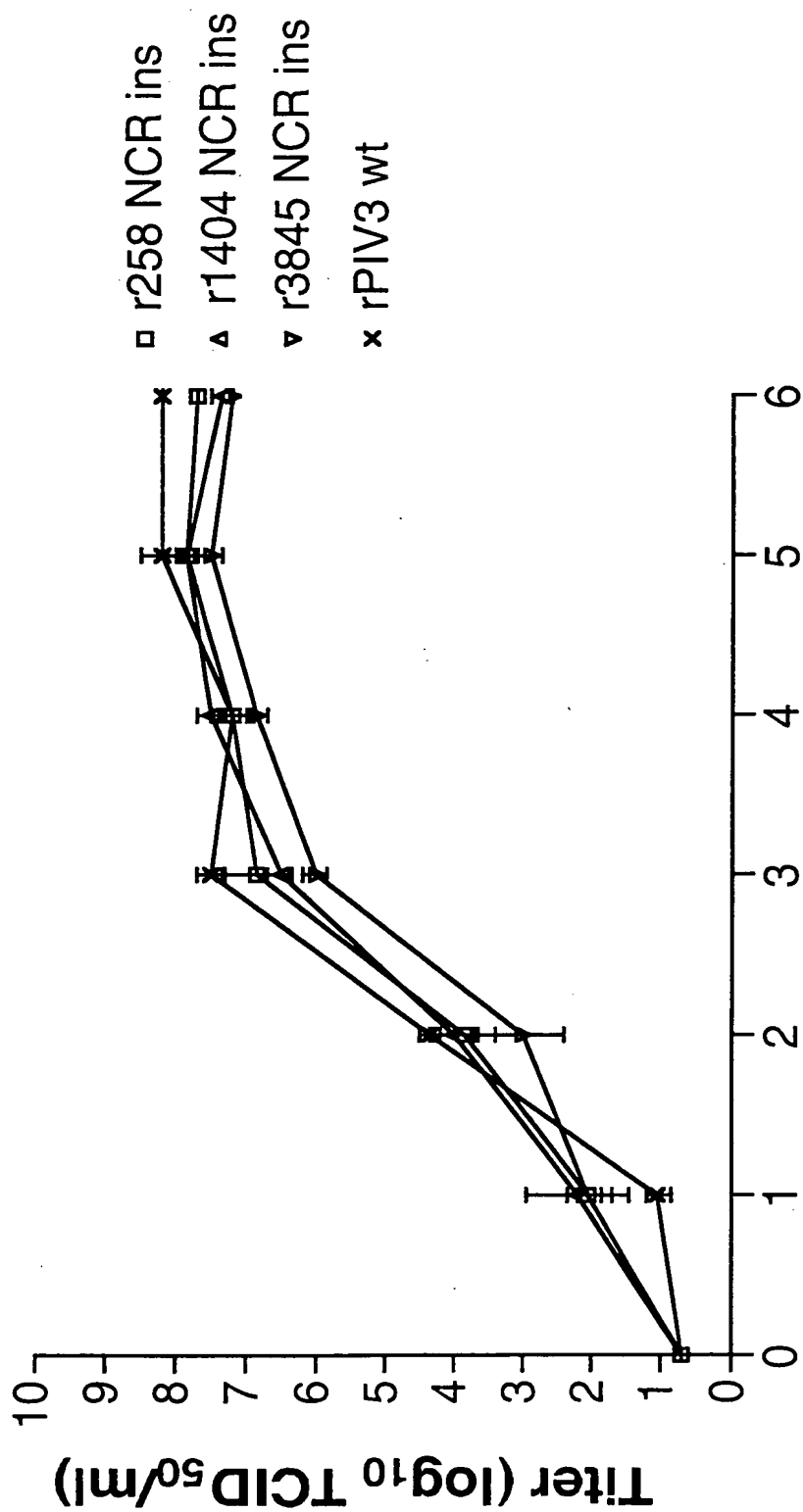


FIG. 9B

Days post-infection

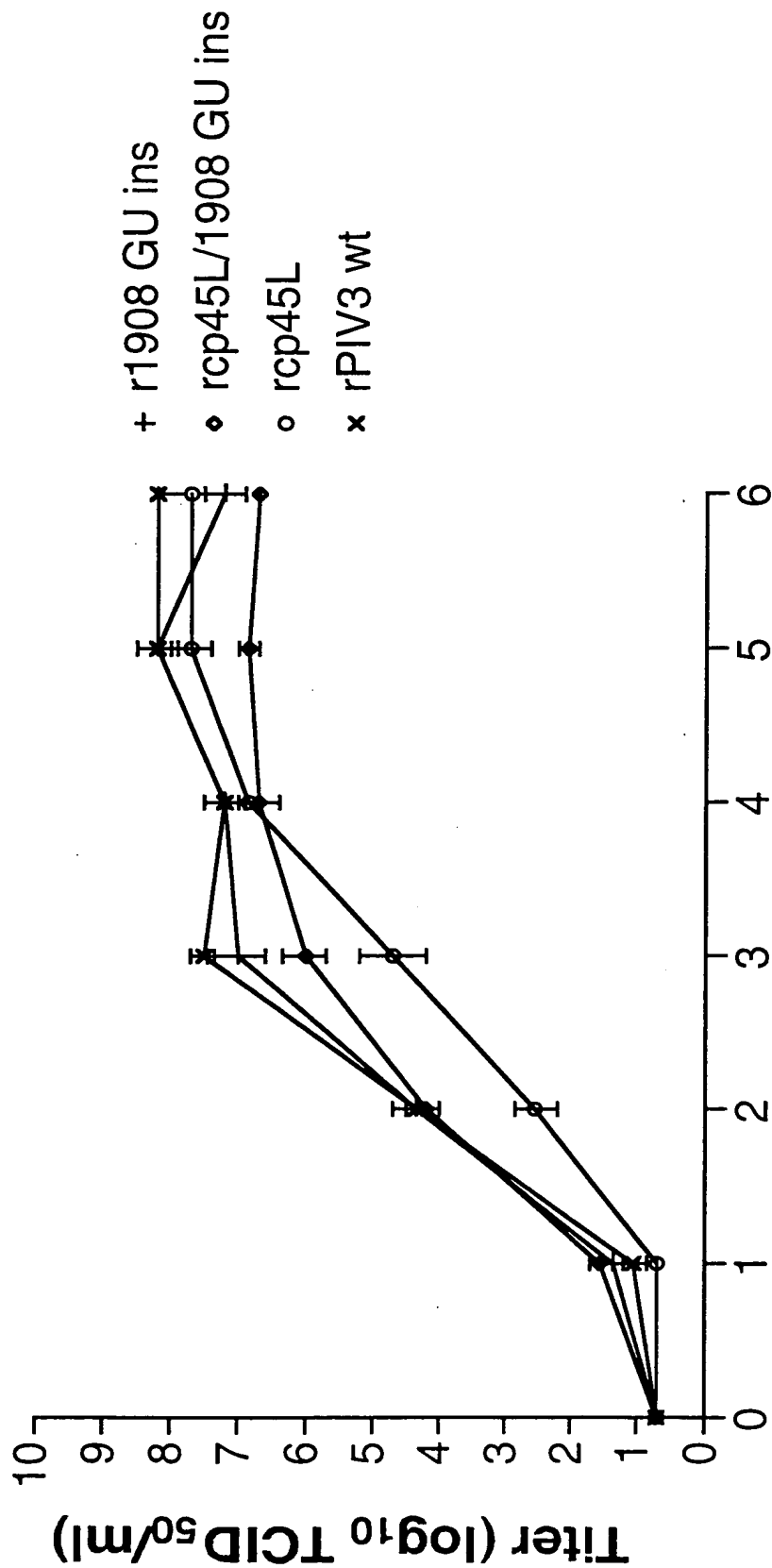


FIG. 9C

Days post-infection

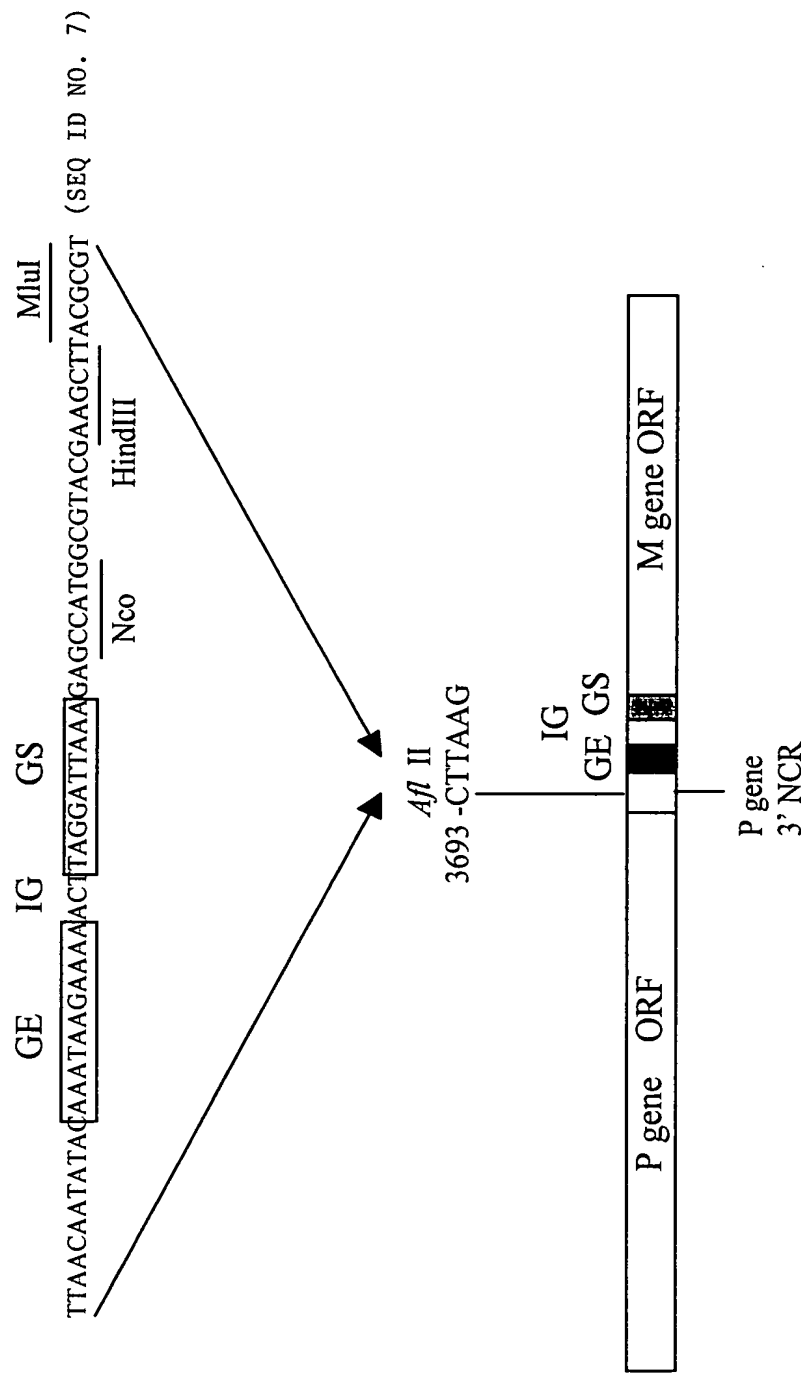


FIG. 10

		Mean peak titer (log <sub>10</sub> TCID <sub>50</sub> /ml) <sup>a</sup>	Reduction in titer at 39°C (log <sub>10</sub> TCID <sub>50</sub> /ml) <sup>b</sup>
rHPIV3 wt	N P/C/D/M M F HN L	9.4	0.3
rHPIV3 1HN <sub>Δ</sub> P	N HN P/C/D/M M F HN L	7.4	0.7
rHPIV3 1HN <sub>Δ</sub> M	N P/C/D/M HN P/C/D/M M F HN L	7.9	2.3
rHPIV3 2HN <sub>Δ</sub> P	N HN P/C/D/M P/C/D/M M F HN L	7.9	0.3
rHPIV3 2HN <sub>Δ</sub> M	N P/C/D/M HN P/C/D/M M F HN L	9.2	0.5
rHPIV3 1HN <sub>Δ</sub> P2HN <sub>Δ</sub> M	N HN P/C/D/M P/C/D/M M F HN L	8.5	0.8
rHPIV3 1HN <sub>Δ</sub> P2HN <sub>Δ</sub> MHA <sub>HN</sub> L	N HN P/C/D/M P/C/D/M M F HN L	7.7	3.0
rHPIV3 1HN <sub>Δ</sub> P2HN <sub>Δ</sub> M3918GU <sub>HN</sub> L	N HN P/C/D/M P/C/D/M M F HN L	8.7	2.0

FIG. 11

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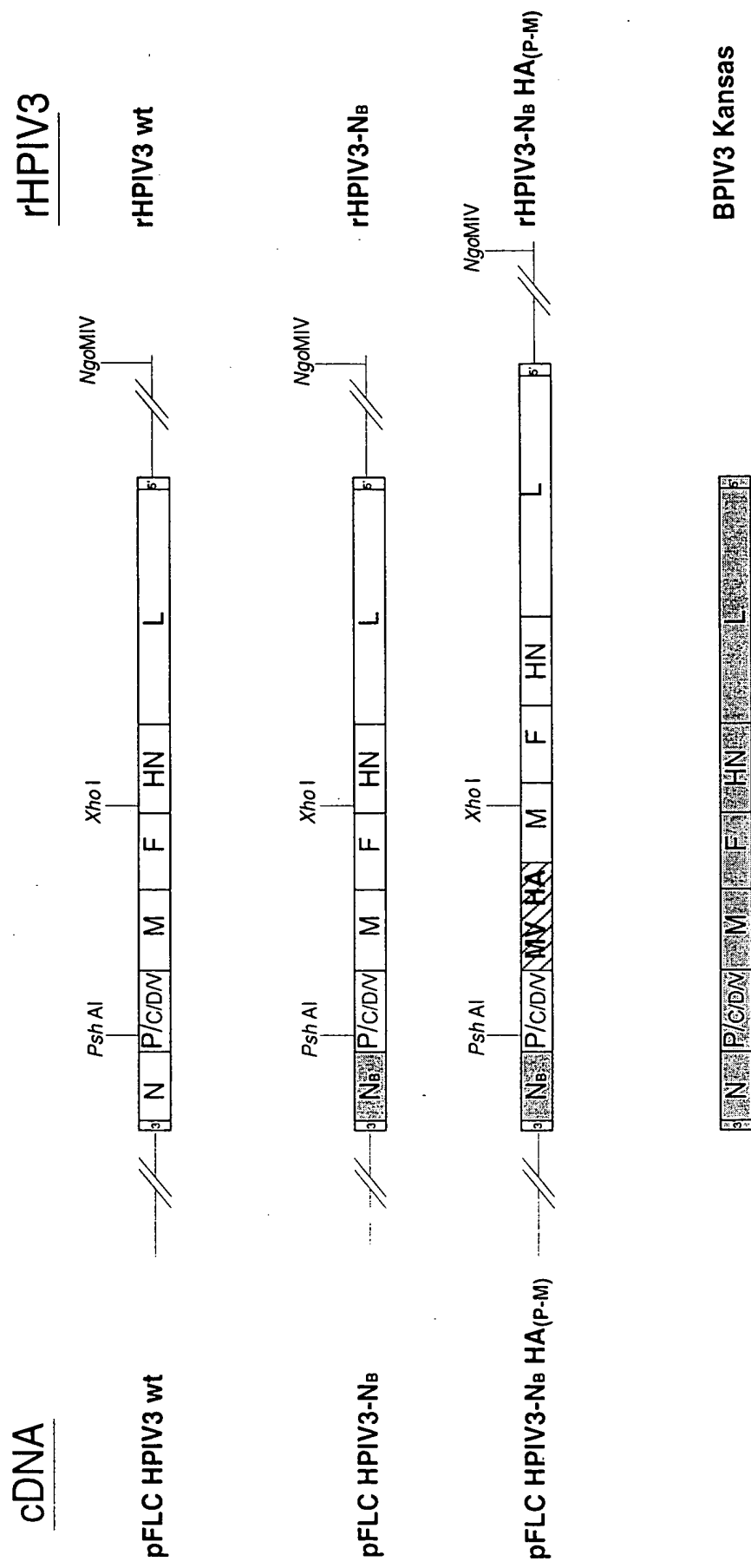


FIG. 12

# Insertion of RSV G or F as an additional gene unit in a promoter-proximal position

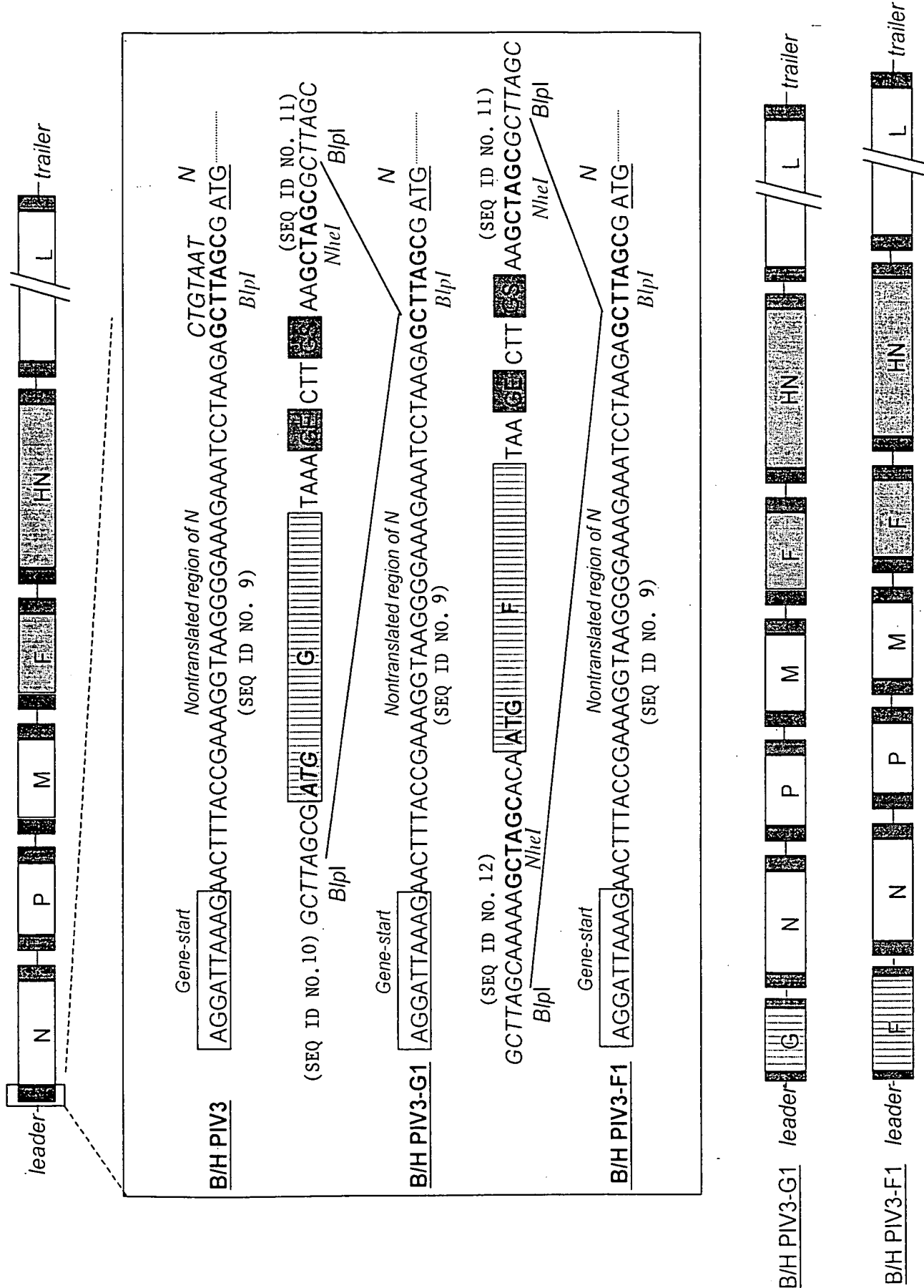


FIG. 13

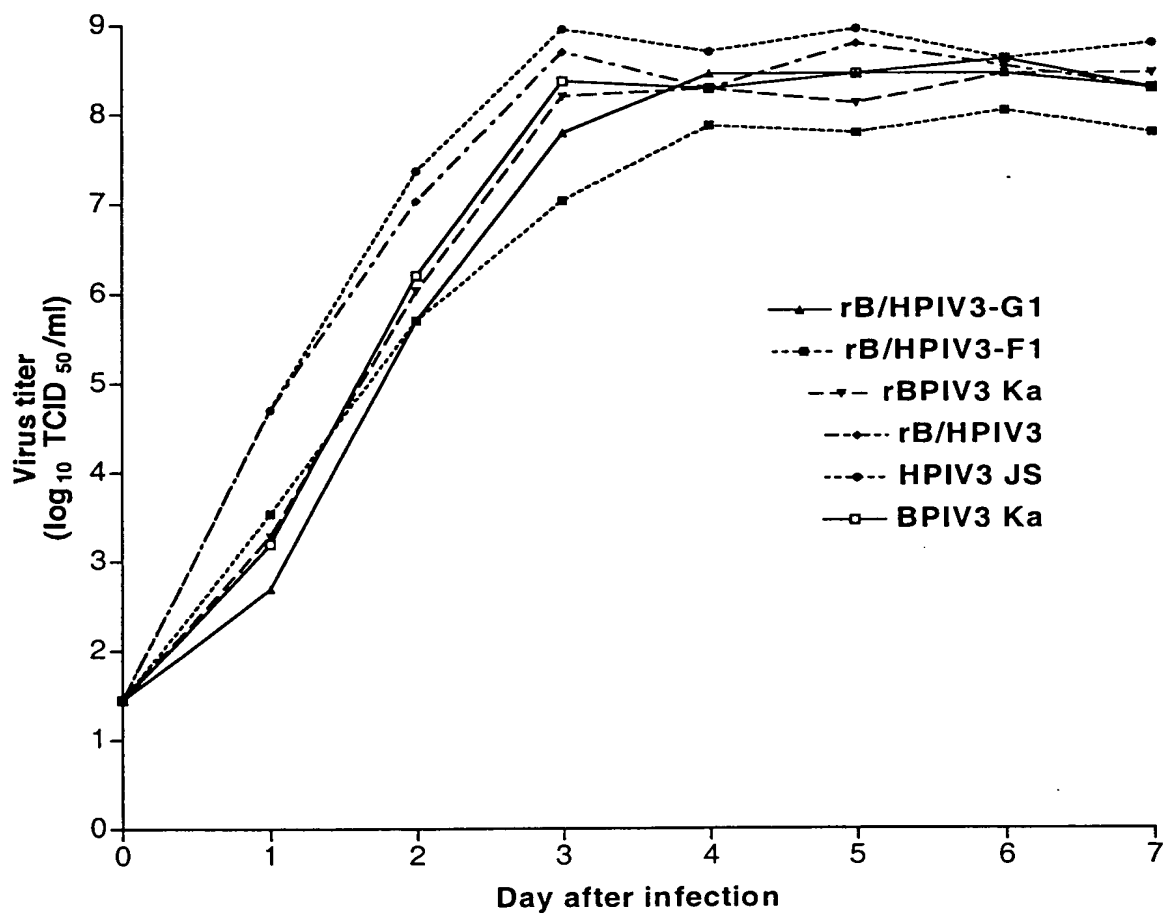
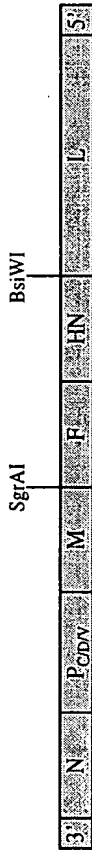


FIG. 14

Recombinant Bovine/Human PIV3.1 expressing HPIV2 F and HN from supernumerary genes

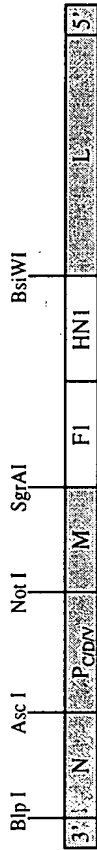
#1: rBPIV3



#2: rB/HPIV3



#3: rB/HPIV3.1



#4: rB/HPIV3.1-2HN



#5: rB/HPIV3.1-2F



#6: rB/HPIV3.1-2HN,2F



FIG. 15

cDNA

Virus

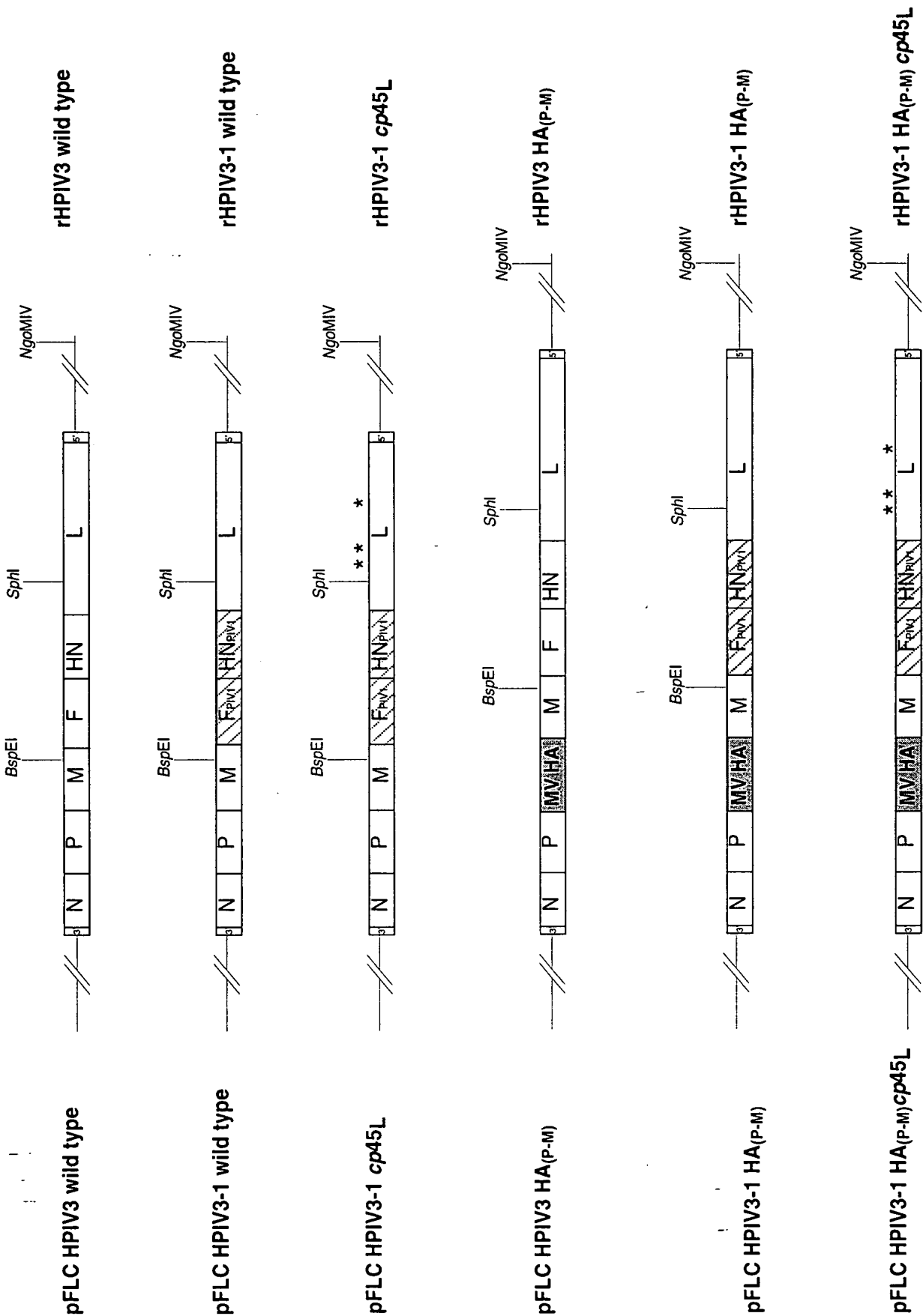
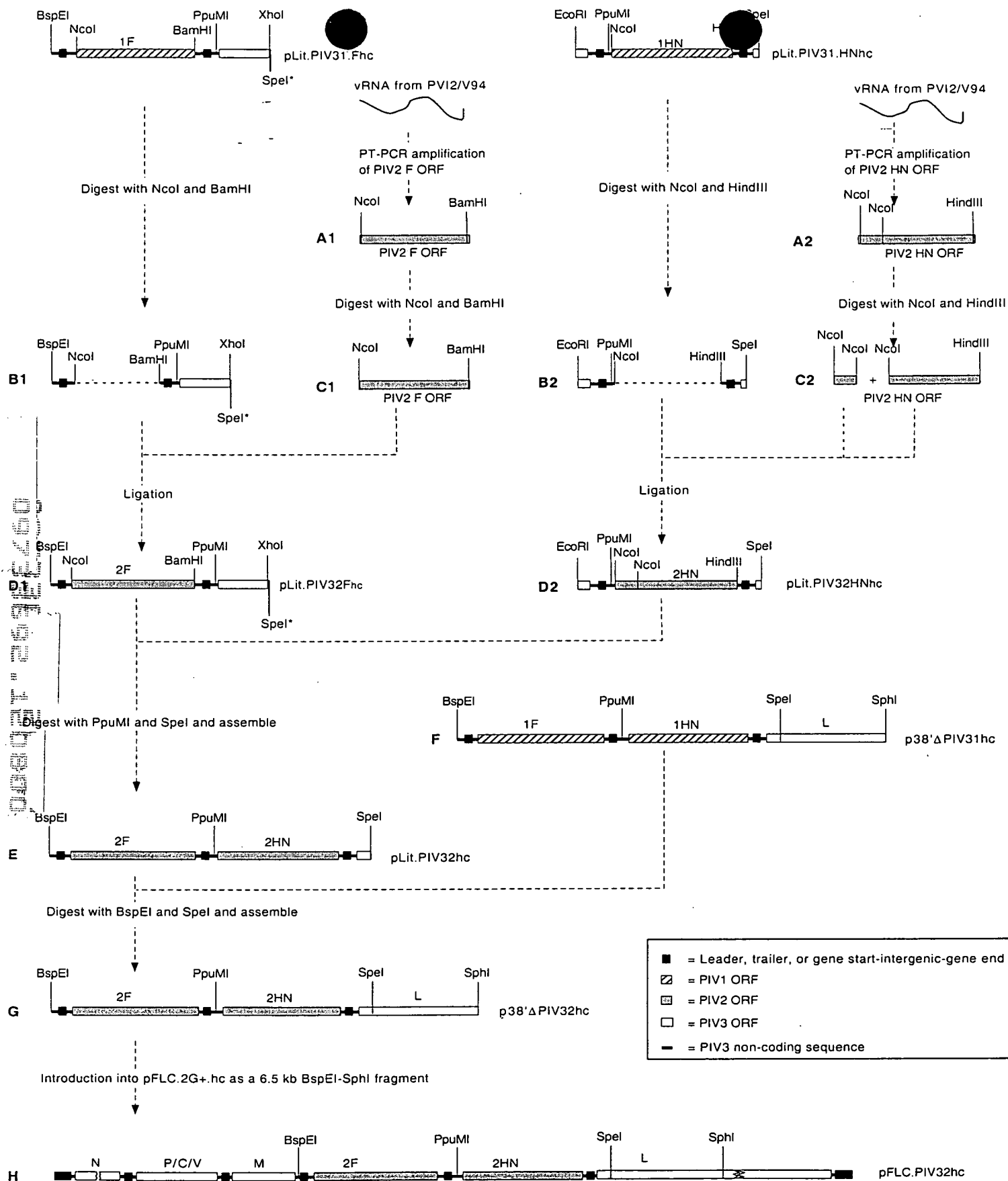
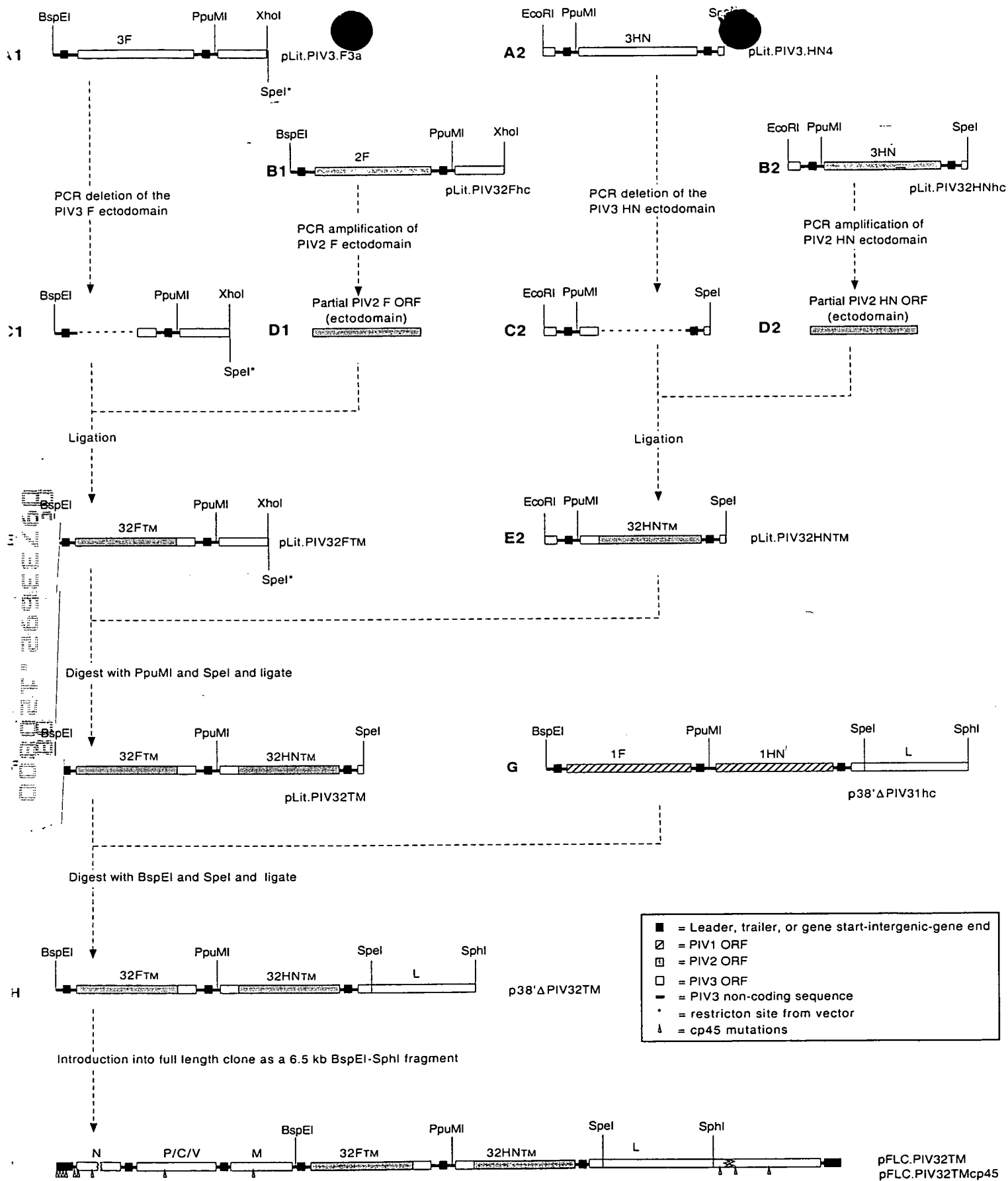


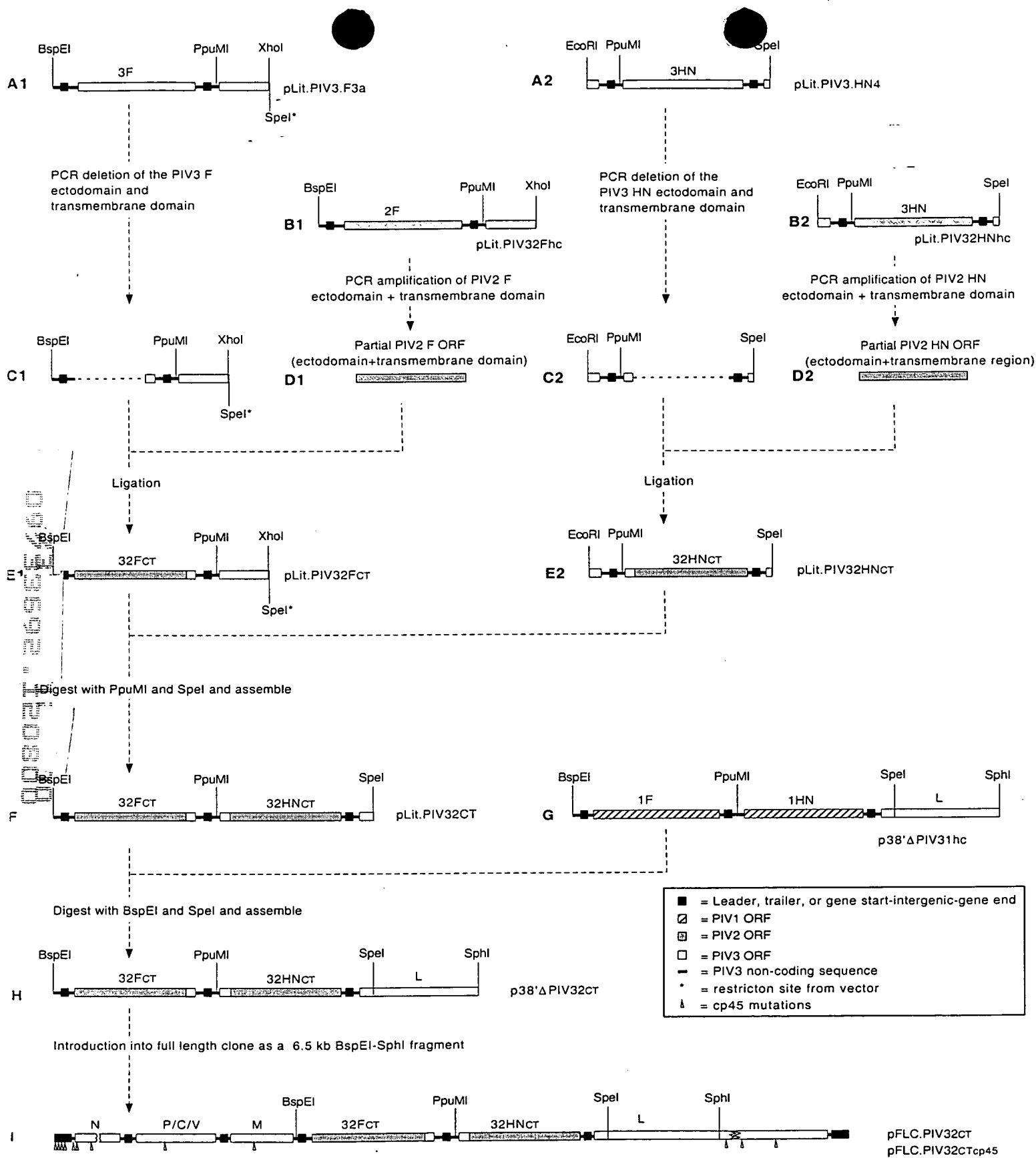
FIG. 16



**FIG. 17**

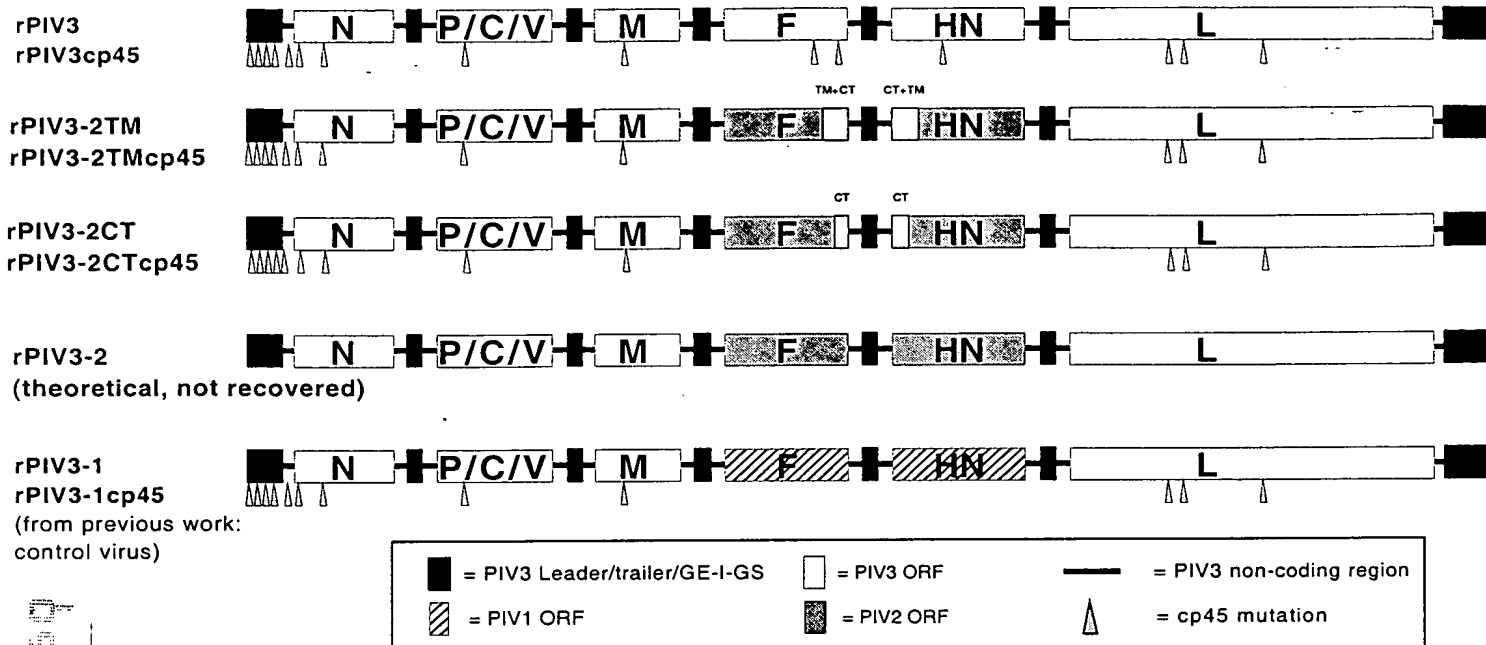


**FIG. 18**

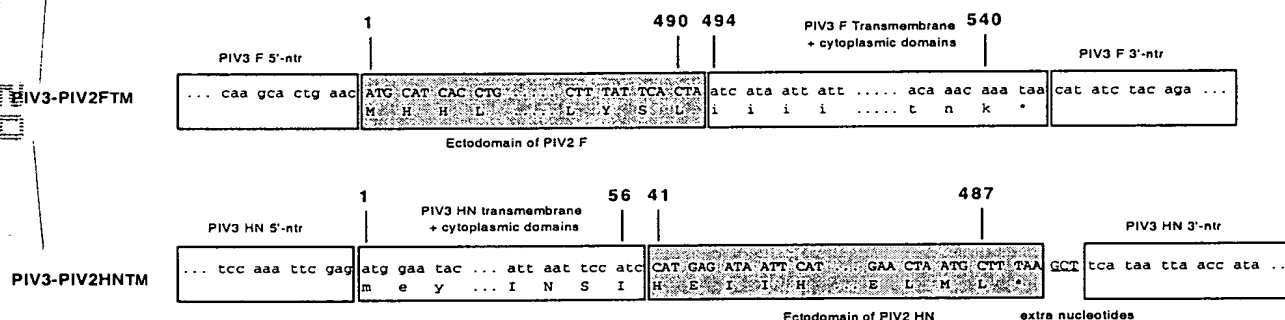


**FIG. 19**

## A. Genetic structures of PIV3-2 chimeric viruses compared with rPIV3 parent and rPIV3-1



## B. Chimeric PIV3-2 F and HN constructs with transmembrane and cytoplasmic domains derived from PIV3 F and HN



## C. Chimeric PIV3-2 F and HN constructs with cytoplasmic domain derived from PIV3 F and HN

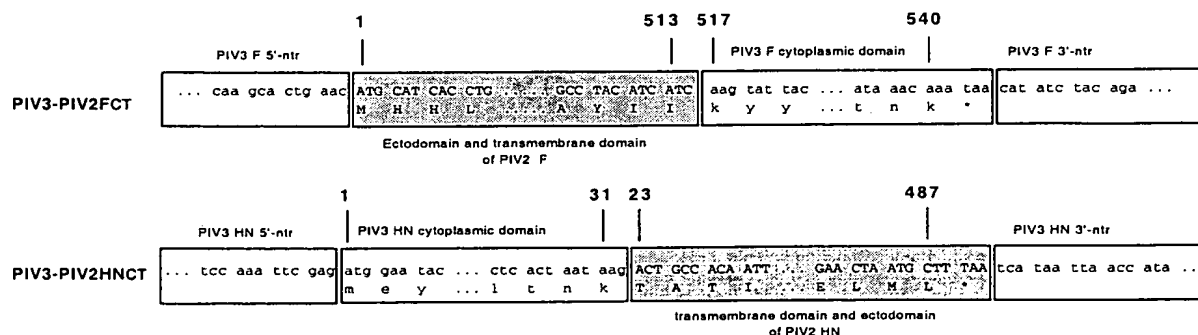
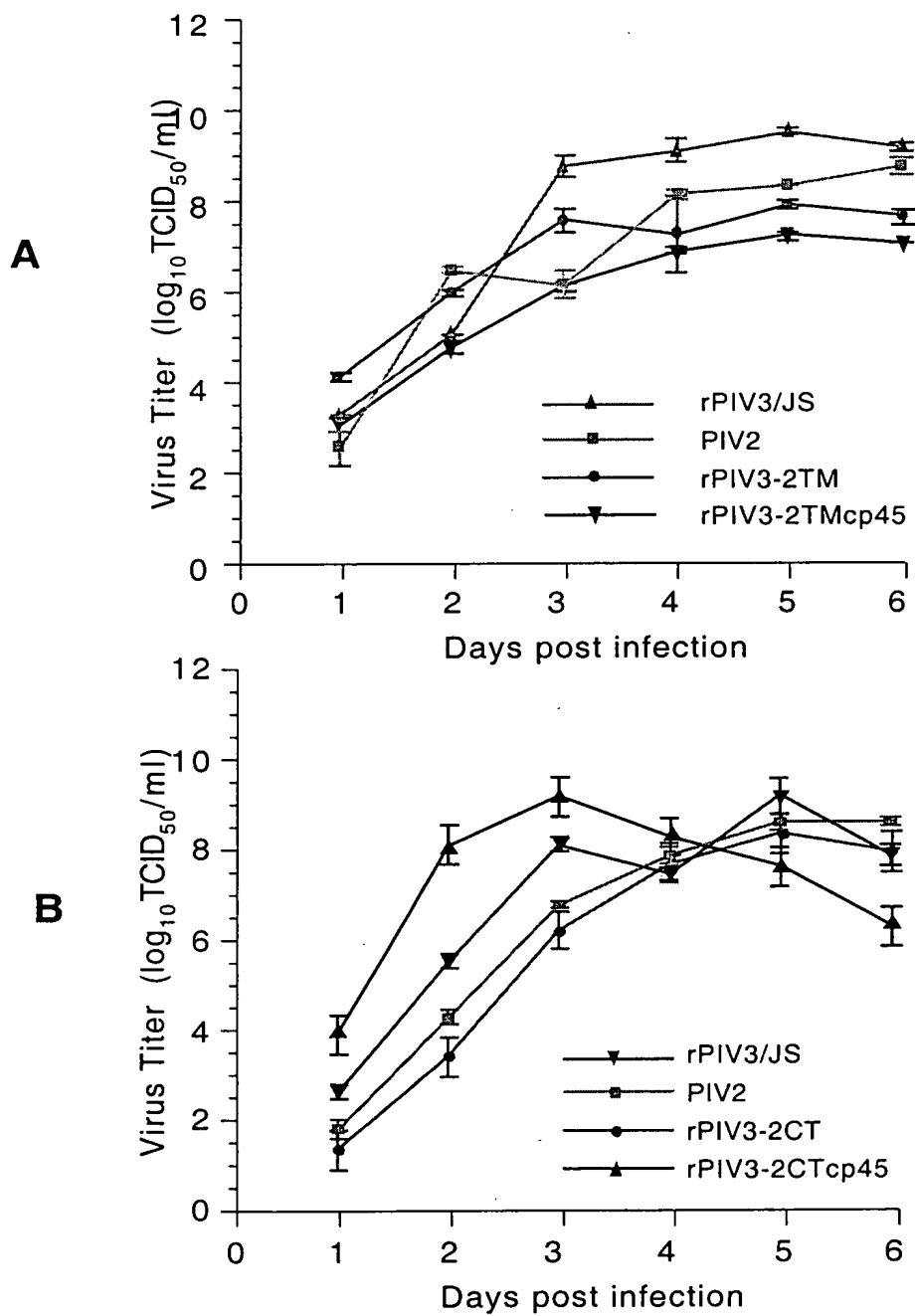


FIG. 20



**FIG. 21**